

**0155** What is claimed is:

**0156** 1. A modular automated diagnostic analyzer for performing analysis tests on fluid samples, comprising:

**0157** an analysis mechanism chassis for mounting a modular sensor chamber,

**0158** the analysis mechanism chassis including a fluid passage for conducting fluids to the sensor chamber, and

**0159** a removable sensor module mounted in the sensor chamber for performing analysis tests on the samples,

**0160** the sensor module containing

**0161** one or more multiple use thick film sensors, and

**0162** a record memory.

**0163** 2. The modular automated diagnostic analyzer for performing analysis tests on samples of claim 1, further comprising:

**0164** a processing unit for reading and writing information pertaining to the sensor module from and to the record memory.

**0165** 3. The modular automated diagnostic analyzer for performing analysis tests on samples of claim 1 wherein:

**0166** each sensor module includes a fluid passage through a sensor module chamber containing film sensor elements on a substrate.

**0167** 4. The modular automated diagnostic analyzer for performing analysis tests on samples, of claim 3 wherein:

**0168** each sensor module is provided with a fluid tight seal at least one end of the fluid passage to form a fluid tight seal with the fluid passage of another sensor module or with the fluid passage of the analysis mechanism chassis.

**0169** 5. The modular automated diagnostic analyzer for performing analysis tests on samples of claim 4 wherein the sensor chamber further includes:

**0170** an engagement element for selectively exerting pressure along one or more sensor modules in the sensor chamber to force the fluid seals of the one or more

sensor modules into contact and into contact with the fluid passage of the analysis mechanism chassis so that the fluid passages of the one or more sensor modules form a single gas and liquid tight passage through the sensor chamber.

**0171** 5. The modular automated diagnostic analyzer for performing analysis tests on samples of claim 1, further comprising:

**0172** a fluid entry module rotatably mounted to the analysis mechanism and enclosing the fluid passage for conducting fluids to the sensor chamber and having an entry port for the entry of fluids to the sensor chamber through the fluid passage and a wiping seal mounted in the fluid entry module and slidably enclosing the aspiration tube in a region extending from the fluid entry port,

**0173** the fluid entry module being rotatably and slidably engaged with the analysis mechanism chassis to rotate to a plurality of fluid entry positions whereby a sliding motion of the wiping seal with respect to the entry port due to rotation of the fluid entry module between fluid entry positions removes a residue of aspirated fluids from exterior surfaces of the entry port.

**0174** 6. The modular automated diagnostic analyzer for performing analysis tests on samples of claim 2, wherein:

**0175** the information pertaining to the sensor module includes use life information, the use life information include one of more of (a) a maximum number of test uses of the sensor module, (b) a maximum test use life of the sensor module, (c) a current accumulated number of test uses of the sensor module, and (d) a current accumulated test use period of the sensor module.

**0176** 7. The modular automated diagnostic analyzer for performing analysis tests on samples of claim 2, wherein:

**0177** the information pertaining to the sensor module includes one or more of (a) an identifier of the sensor module, (b) a lot number of the sensor module, (c) an identifier of the types of thick film sensors contained in the sensor module, and (d) calibration information pertaining to the thick film sensor contained in the sensor module.

**0178** 8. The modular automated diagnostic analyzer for performing analysis tests on samples of claim 2, wherein:

**0179** first certain of the information pertaining to the sensor module and residing in the record memory is stored in the record memory before use of the sensor module, and

**0180** second certain of the information pertaining to the sensor module and residing in the record memory is generated and stored in the record memory during use of the sensor module.

**0181** 9. A modular automated diagnostic analyzer for performing analysis tests on fluid samples, comprising:

**0182** an analysis mechanism chassis for mounting a modular sensor chamber,

**0183** the analysis mechanism chassis including a fluid passage for conducting fluids to the sensor chamber, and

**0184** a removable sensor module mounted in the sensor chamber for performing analysis tests on the samples,

**0185** the sensor module containing

**0186** one or more multiple use thin film sensors, and

**0187** a record memory.

**0188** 10. The modular automated diagnostic analyzer for performing analysis tests on samples of claim 1, wherein:

**0189** one or more of the one or more multiple use thick film sensors is a reference.